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New distributional records of Monkey puzzle butterfly *Rathinda amor* (Fabricius, 1775) from Magadh division, Bihar

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ABSTRACT

Rathinda amor (Fabricius, 1775) was recorded and photographed for the first time from Magadh division, Bihar. Authors are reporting monkey puzzle butterfly for the first time from divided Bihar.

Key words: *Rathinda amor*, new distribution, Bihar.

1. INTRODUCTION

During our field observation in the month of January 2022 in Gaya and Nawada district, we observed adult of *Rathinda amor* on a lemon plant in morning hours while observed larvae feeding on tender leaves of litchi plant in a home garden in Gaya (24.471829 N, 84.595468 E, Altitude: 79 meter). While one imago female of *Rathinda amor* also observed by us in Nawada region (24.780518 N, 85.429020 E, Altitude: 39 meter). *Rathinda amor* are mostly identified in secondary forest regions of Sri Lanka (Weerakoon & Ranawana, 2021). Varshaney (1981) reported *Rathinda amor* from Hazaribagh Wildlife Sanctuary in 1981 while Bihar was undivided and after the separation the place of previous observation lays under Jharkhand. In the context of new Bihar, Paul Van Gasse reported 116 species from Bihar in checklist. While *R. amor* was not observed under the study. Till now, no any literatures indicate the distribution of *R. amor* in Bihar while no images available on Citizen Science Platforms in relation with *R. amor* till now. Identification confirmed by the books following Kunte (2020) and Anonymous (2013) by the help of images and video clips taken during observation.

The authors are reporting *Rathinda amor* for the first time from Magadh division, Bihar. *Rathinda amor* is observed after long period of 40 years in new Bihar from the date of previous observation by Varshaney (1981) from undivided Bihar.

Taxonomic position:

Lepidoptera > Papilionidea > Lycaenidae > Theclinae > Horagini > *Rathinda*

Distribution:

Kerala, Maharashtra, Karnataka, Andhra Pradesh, Odisha, Tamil Nādu, Chhattisgarh, Goa, West Bengal, (Hazaribagh in undivided Bihar now in Jharkhand), Magadh division in Bihar (New distribution).

Diagnostic characters:**Imago stage:**

Upper surface was deep brown. Small white spots forming a short band on the forewing. Cilia blackish with white tip. Head and body upper and lower concolorous like wing. Antenna black, ringed with white. The hind wing appears a silvery margin with many irregular black spots and lines and having three cilia. Central cilia were longer than other two with a red patch near lower one. In female white spots was larger and forewing rounded.

Larval and pupal stage:

Larvae were greenish in color with 8 fleshy protuberances. The protuberances were cream in color. Body was triangular in shape with a grayish patch on dorsal surface of abdominal segments. Head capsule was creamish in color. While pupa was green in color and at the abdominal region the grey color patch in visible in triangular shape. No other orientation observed.



Figure: - 1. Image of adult *Rathinda amor* butterfly observed on 14 January 2022 in Gaya district.



Figure: - 2. Larvae of *Rathinda amor* feeding on tender leaves of *Litchi chinensis* plant observed on 6 January 2022 in Nawada district.



Figure: - 3. Pupae of *Rathinda amor* on a tender canopy of *Litchi chinensis* plant on 7 January 2022 in Nawada district.

2. DISCUSSION

A total of three adult and four larvae along with a pupae observed in the home garden in Nawada and Gaya district. The flight pattern of *R. amor* was bouncing flight with slow movement. Observation recorded on land or on low height canopies of plants.

Further studies may require to understand the population density and distribution of this butterfly along with the impact of larval infestation on a highly valuable plant that is litchi.

Acknowledgement

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Authors Contribution

First author and second author done the field survey, taken images and prepared the paper while senior author helped in identification and literature review along with supervision during the survey.

Ethical approval

The ethical guidelines are followed in the study for observation of species *Rathinda amor* (Fabricius, 1775). The species was surveyed by the help of Abhishek Kumar I. F. S., DFO Gaya Forest Division. Butterfly was identified & confirmed by Peter Smetacek (Butterfly Research Centre, Bhimtal). Butterfly details were documented with the help of Dr. Kumari Aditi, Dr. Raushan Kumar and other faculties.

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Conflicts of interests

The authors declare that there are no conflicts of interests.

Data and materials availability

All data associated with this study are present in the paper.

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